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TEACHING SWIMMING

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PAUL W. LUKENS

Due

TEACHING SWIMMING

by

PAUL W. LUKENS
Swimming Coach
Hibbing High School
Hibbing, Minnesota

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by
Paul W. Lukens

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FOREWORD

This Manual has been prepared with the expressed purpose of providing the swimming teacher, more particularly the one who is not a specialist in this field, with the necessary tools for giving basic instruction in an activity which is so essential to boys and girls.

Paul Lukens is one of the country's foremost swimming teachers and is well-known in interscholastic swimming circles. His experience includes two years as swimming coach at Lehigh University, one year as freshman swimming coach at the University of Iowa, and twenty-four years as swimming teacher and coach at the Hibbing High School, Hibbing, Minnesota. During the period at Hibbing, his swimming teams have won eleven State titles and have established four National interscholastic medley and free-style relay records. More important than this, however, hundreds of Hibbing boys have mastered the skills that make them thoroughly competent in the water.

As a result of these many years of experience, Mr. Lukens has discovered methods and techniques which simplify for the pupil learning processes involved in swimming. The language in this manual is simple and to the point, and so clear that even the inexperienced teacher will find the material usable. On the other hand, the experienced teacher can refresh his memory and profitably compare methods and technique.

I truly feel that this Manual will be a useful guide for the many physical education teachers in Minnesota, and other states as well, who find themselves called upon to give swimming instructions.

Perry J. Sandell,
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INTRODUCTION

As a preliminary to the perusal and use of this material, we suggest that you observe a group of adults swimming at a public beach. You will see a few who swim well and are at home in the water, but the bulk of the adult population gives a pitiful picture. They love the water and would like to swim well, and tho' they don't admit it, they are very much afraid. They get so tired when they swim. They can't put their faces in the water. They know from experience how it feels to choke and gasp and fight for air or feel for a bottom that isn't there.

Scan the newspapers during warm weather and check the number and variety of water accidents, mostly preventable.

Watch a group of youngsters swimming without supervision, and see the foolhardy things they do and the chances they take, because they have no knowledge of water safety.

These observations will suggest to you, as they do to me, two fields in which we should teach swimming, for safety in the water, and for fuller enjoyment of water activities. They constitute the basis for the objectives of our teaching.

If you have been looking for written material to use in teaching swimming, you have found that the supply is meagre, stereotyped, wordy, difficult to interpret, downright ancient and hard to use.

Most books or authors give the impression that it is possible to teach a lot of swimming to any group. It is not! Some individuals will absorb all you can give them, but the class average moves forward very slowly. There are many pupils who will never pass the Red Cross Swimmers Test, let alone Life Saving. This doesn't mean that Life Saving shouldn't be taught, but that it should be taught to those who will be able to use it adequately.

The bulk of the pupils need personal safety in large doses and enough elementary life saving to help in an emergency according to their ability.

There are three fundamentals of outstanding importance in swimming. Every pupil should be worked and worked over and re-worked to teach him to:

(1) BREATHE ADEQUATELY - The foundation for safety and enjoyment in the water is breathing. Practice the mechanics of breathing often enough and long enough to become thoroughly familiar with the handling of air while in the water. If one skill only were taught, the teaching of breathing would add more toward safety and enjoyment than any other fundamental.

(2) LIE DOWN AND LET THE WATER SUPPORT HIM WHILE HE SWIMS - the practice of climbing or trying to support himself at a point above his normal position is usual for a beginner. He will never swim well until he lies down, fully supported by the water and swims in that position.

(3) KEEP OUT OF HIS OWN WAY - Let him learn to streamline body and legs so he can move through the water with a minimum of resistance. The common position, broken in the middle, legs bent and spread, feet hooked, takes a lot of teaching to correct.

When these three fundamentals are well learned the problem of making successful swimming movements is greatly simplified.

As you teach: -

(1) If you can, teach things just as they are to be used. That is, in shallow water, it is possible to get head, trunk and arms into swimming position for breathing practice or arm work and duplicate very closely swimming conditions.

(2) Try to get pupils to avoid the common mistakes before they appear, by explanation, comparison and demonstration.

(3) Try to get slow, controlled movements during practice or learning periods as many pupils eliminate all chance for accurate control by being in a hurry. It takes a long time to teach some to move slowly.

The value of this material is not in the outline, though I feel that all important items are included, but in the expanded outline which gives definite instructions for the pupils, emphasizes troublesome details and helps them avoid common mistakes; and in the notes for the instructor which clarify details and explain common mistakes and give corrections for them.

There is far more material here than the average class can absorb in four years of teaching. If time is scarce, concentrate on important fundamentals and personal safety.

Objectives

1. To make the pupil safe in and around water in any given situation.
2. To increase, to the greatest extent, each pupil's capacity for enjoyment of water activities.

We will try to accomplish our first objectives by:

1. Teaching types of swimming strokes that are simple to learn, economical of energy output, and effective means of water travel.

    Elementary crawl
    Elementary back stroke
    Side stroke
    Single over-arm
    Breast stroke

2. Teaching skills that are of value for individual safety and efficiency.

    Breathing
    Push and glide (front and back)
    Leveling off
    Changing direction and changing sides
    Jumping and diving
    Floating motionless
    Treading water
    Sculling

3. Teaching Water Safety and Life Saving.
    (a) Safety in the use of boats and canoes, by talk and practice (if possible).

    (b) Safety in the use of outdoor swimming places and in outdoor distance swimming.

(c) What to do in the common emergencies.

(d) Junior and Senior Life Saving for those who will make capable life savers.

We will try to accomplish our second objective by:

1. Teaching strokes that every youngster wants to swim because they are fast, fun to do or can be used in competition.

    Crawl
    Inverted crawl
    Trudgen
    Flying Breast stroke
    Underwater strokes

2. Teaching skills that are of value in enjoyment of water activities.
    (a) Breathing

    It is definitely a satisfaction to know where that next breath is coming from. The ability to breathe easily and well adds immeasurably to confidence and enjoyment of the water. It removes the fear that dominates the swimming activities of the untutored, the tension and reserve of the swimmer who "can't get his head wet."

    (b) Floating

    For the confidence and pleasure in the swimmer's knowledge that he can turn over and rest any time. For the pleasurable sensation of relaxation supported by the water.

    (c) Surface Dive

    (d) Spring Board diving

    (e) Racing Dive

    (f) Turns

    (g) Water Games

Any improvement in physical strength, health or condition, the acquisition of skills and swimming strokes are incidental to, or by-products of the teaching toward the above objectives.

GETTING ACQUAINTED WITH & USED TO THE WATER & LEARNING THE FIRST STEPS IN CONTROL

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
The teacher can make or break timid pupils right here. Some will not want to go under water. Patience, personal help, and a casual attitude toward fears and phobias will help. The normal group will go through these exercises easily and well, standing in a semi-circle in shallow water, with the instructor in the center or on the deck above water.	2 Duck under and come up smiling. Keep your hands on your hips, your feet on the bottom. Open your eyes when your head emerges. (Water on your eyelashes feels queer but soon ceases to bother.) Repeat several times trying for easy, smooth, controlled movement. Duck under, hold your breath for a count of 10 and come up smiling, eyes open. Repeat. Duck under and open your eyes and count your fingers. Duck under and blow bubbles. (Open your eyes and watch them go by.) Inhale through a wide open mouth. Exhale through your nose.
BALL FLOAT	3 **BALL FLOAT**
This is a big hurdle. Here the pupil learns that water will support him, that the swimmer doesn't have to fight to stay on top. He learns that, lying down supported by the water, his problem is to make swimming movements, not supporting movements. Try to get every pupil to feel the flotation power of his body.	Take a full breath, duck under, smoothly and slowly. Put your head down slowly until it is lower than your shoulders. Feel the buoyancy of your body as it submerges completely. Slowly pull your knees up to your chest and hold on to your legs. Float for a count of 10 or more. Put your feet on the bottom before raising your head. Repeat.
PUSH & GLIDE FACE DOWN	4 **PUSH & GLIDE FACE DOWN**
This is the beginning of the pupils knowledge of streamlining and the control of body position. It must be learned correctly and thoroughly. Promote control of body and head and limbs so that the glide offers as little resistance to forward motion as possible.	Stand with your back to the wall, hands together and flat, with thumbs locked. Stretch your arms out straight forward on the surface. Put one foot against the wall by the other knee.

NOTES FOR INSTRUCTORS

Many pupils tend to roll over or have difficulty with balance. There are two reasons for this:

1. The head is too high. The head should be low enough so that the ears rest on the arms near the shoulders.

2. A body position with the hips much lower than hands and feet. The body must be flattened into a straight line mostly by sucking in stomach and abdomen.

INSTRUCTIONS FOR PUPILS

Take a big breath, put your head down between your arms, push, stretch out straight and glide, holding your breath.

Pull your legs up into ball float position, put your feet on the bottom, stand up.

BREATHING

This is the foundation for safety and enjoyment. TEACH IT WELL so that the pupil can breathe and exhale without hesitation or difficulty for several minutes.

Practice at the same speed breathing will be used in normal swimming. (Most pupils go too slowly.)

Learn to breathe on either side equally well.

It pays to teach breathing exactly as it is to be used; to meet, as well as possible, the breathing problems met in swimming any stroke i.e. (bobbing is not an adequate practice for crawl breathing.)

Teach crawl breathing as crawl breathing with body and head in crawl position while standing in shallow water.

BREATHING

Stand firmly on the bottom, lean over so that your trunk and head are in swimming position, with your hands on your knees. Turn your head to the side, lower it until your cheek and ear are in the water (either side), it makes no difference.

Take a big breath through your mouth, turn your face into the water (by using your neck muscles), so the water line is on your forehead. Exhale smoothly and freely through your nose.

As exhalation nears completion, turn your face to the side so that exhalation finishes just as mouth and nose emerge. (Move nothing but your head.)

Open your mouth wide for a new breath and repeat.

Keep your face, throat, chest and shoulders relaxed. Don't breathe out in jerks. Exhale steadily.

CRAWL

CRAWL KICK

Crawl kick is *not* a natural movement, it it must be carefully *learned*. Try to eliminate pushing and bicycle movements of the feet.

CRAWL

CRAWL KICK

Hold on the wall (the hands form a bracket) with your legs held out straight close to the surface, body slightly arched, head high, hips low, feet pointed and pigeon-toed.

NOTES FOR INSTRUCTORS

The knees will bend slightly, but only because the feet are slowed by the grip on the water during the downward kick.

Toes must be pigeon-toed in order to bring the small triangular flat surface on top of the foot to bear on the water for the down kick.

Try to get the legs to flow up and down like a pair of large fish turned on their sides.

Try to teach the right size, the right speed, the right height (in relation to the surface of the water), and the right strength.

CRAWL ARMS

When the pupil acquires some skill pulling alternate arms, one at a time, he can begin to press down on the arm that is out front while the other is pulling, so that when the pulling arm returns to its original position, it will be from 10" to 14" above the other. In different words - instead of the arms pressing and pulling separately they overlap - one presses while the other pulls and the reverse.

This type of slide and pull or press and pull arm action, can be learned right from the start. It is very efficient and is of practical value in helping beginners who have breathing trouble, as they have plenty of support out in front all the time.

Most pupils will want to pull too soon, in fact, windmill arm action (with arms opposite), is the natural movement. This makes for difficult breathing because of lack of support for the head.

PRONE GLIDE AND KICK

It will be difficult for some pupils to maintain either the body position or the kick as learned on the wall.

INSTRUCTIONS FOR PUPILS

Slowly move your legs up and down past each other so that feet travel 14 - 18 inches.

Keep your legs stretched and pointed. Kick from the hip.

Gradually increase the speed until kicking at the rate for normal swimming speed.

Keep your legs close together - toes should touch as they pass.

Kick high enough to mix in a little air with every kick.

Kick down! (Raise your leg and kick down each time.)

CRAWL ARMS

Stand on the bottom with your arms extended side-by-side about 6" below the surface in front of your body.

Press down on your right arm, then pull back past your legs almost to the surface. Lift your arm to the side over the water. Return it to the original position alongside your left arm. Repeat with your left arm.

Repeat with each arm alternately, returning to the original position each time.

Keep your hands flat and firm, your fingers together. Hang on to the water all through pull. Pull slowly and firmly. Let your shoulders move with your arms.

PRONE GLIDE AND KICK

Push off the wall in glide position.

Start the crawl kick and kick across the pool.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
Some need far more work on these fundamentals than others.	Maintain the body and arm position already learned, raise your head slightly to keep your feet in the water.
ARMS & BREATHING (Standing on Bottom)	**ARMS & BREATHING (Standing on Bottom)**
This timing of breathing will prevent rolling during swimming, will keep the body and hips flat and help even timing of the arms. Too many swimmers tie arms, shoulders and head, even body and hips, in one piece and turn everything for air. The ideal execution of breathing lets the rest of the body function as it does when the swimmer is not breathing.	Stand in position for arm practice. Breathe as the arm on the breathing side is pulling (either side). Turn your head to exhale just before the recovery of the arm on the breathing side. Turn your head with your neck, in time with, but separate from your arms and shoulders. Be sure your head returns to center front at the proper level. Check your arm movement. Make it as smooth and correct as it was without breathing.
ARMS & LEGS	**ARMS & LEGS**
A six beat kick (3 kicks on each arm) is the standard for efficient performance. You will see 2-4-8-10-12 or even more variations. All of them should be brought to 6. This can be done in difficult cases by using a kick board and letting the pupil do a lot of kicking. Have him count as he kicks 1-2-3 --- 4-5-6 and accent the numbers 1 and 4. 4 and 8 beat kicks (the usual variations accent the same leg each time.) For a 6 beat kick the pupil must learn to accent alternate legs on 1 and 4.	Push off from the wall, start your kick. Then start your arms and combine slide and pull arms with the kick, using 3 kicks on each arm. Maintain your body position, the technique of crawl kick, keep your hips flat, the kick straight up and down. Swim slowly. Press down before pulling.
ARMS, LEGS & BREATHING	**ARMS, LEGS & BREATHING**
Push off and swim, the fundamental practice in the components of crawl should condition the pupils for good performance at once, if it were not for the problem of coordination. This factor is a major one for most boys and almost insurmountable for some. The only solution is additional fundamental work and practice putting two fundamentals together. For many it is a long, slow job, and few will look like picture-book swimmers - but they will be able to use crawl after a fashion and they will be able to breathe and keep going.	Push off and swim. After you get your arms and legs started, breathe as you learned to breathe in practice on the bottom.

NOTES FOR INSTRUCTORS

ELEMENTARY BACKSTROKE

This is a big hurdle for the beginner. It takes a great deal of resolution for the poor swimmer to lie on his back. It will increase his confidence immeasurably when he finds out the water will support him in that position.

There are two mistakes that appear regularly - both from lack of control. Many pupils throw their arms up and wide as they leave the wall and more will break at the hips or try to assume a sitting position in the water. The high arms only serve to push the pupil under and should be dropped to the sides instead. This tendency comes from the pupil's attempt to support himself with his hands. The sitting position is the most common cause of failure in attempting to swim back stroke.

It means that the pupil hasn't really made up his mind to lie down and let the water hold him, hence cannot learn the real lesson this exercise has for him. The head position is also very important, the water line should be on the ears and the face looking straight up. The pupil who doesn't float readily should maintain the straight position and lie quietly as his feet settle to the bottom. With the weight of his legs supported on th the bottom he can lie indefinitely supported by the water, if he keeps his body straight and his chin up.

ARM STROKE

This is the easiest stroke for beginners to learn and any pupil who has learned the back glide should learn it readily, as the coordination is simple and quite natural.

There will be some difficulty in keeping pupils from breaking at the hips during the leg kick.

INSTRUCTIONS FOR PUPILS

ELEMENTARY BACKSTROKE

Back Push off and Glide

Hold on facing the wall, both feet against the wall. Sink until the back of your head is in the water.

Take a big breath, let go your hands and straighten out your body slowly so it is stretched out flat on the surface.

Keep your hands at your sides. Look at the ceiling or straight up in the air.

Keep your hips up and your body straight.

Let the water hold you as you glide.

Lie down just as if in bed.

To stand up, bend at the waist, reach forward with your hands and put your feet on the bottom.

Repeat - push harder - flat longer.

ARM STROKE

While lying in a back glide, move your hands up through the water to your shoulders, reach out to the side, at shoulder level, and sweep your hands to original position. Glide.

Keep your hands in the water, close to the surface all during the stroke.

Move deliberately and stroke firmly.

Maintain your body position during the arm stroke.

NOTES FOR INSTRUCTORS

Concentrate on the position of the head and hips and on controlled movement of limbs.

Since this stroke is for resting and easy swimming, it should be done very slowly and with a long glide between strokes.

INVERTED CRAWL OR STANDARD BACKSTROKE

BACKSTROKE KICK

In teaching this kick there is always the usual minority unable to lie flat. They want to sit up and kick and, of course, they are unsuccessful. They must learn to lie down.

There are also some faults in foot position that do not appear elsewhere. A small number of pupils will try to reach out with their toes and push down (obviously in a mistaken attempt to stay on top). These few usually flatten each foot on the up kick and flex their knees too much. The only correction is long sessions of work on leg position and clarification of their understanding of the kick.

Bicycle movements and breaststroke movements also appear. Usually they are very difficult to correct, especially as they occur in poor crawl swimmers and pupils with poor coordination.

BACKSTROKE ARMS

If the pupils concentrate on the similarity of backstroke arms and oars, they will do well and develop good, useable backstroke.

Some will want to finish the pull and let the arm swing in over the body and on across it overhead. This throws a sheet of water over the face, tends to sink the swimmer and usually gives an awkward struggling performance.

The wide catch, pull and recovery are quite easy to learn. The difficulties appear from lack of concentration or among those with a history of poor swimming.

INSTRUCTIONS FOR PUPILS

LEGS

During the above practice, when your hands reach your shoulders, bend and spread your legs laterally as your hands reach out for the stroke.

Sweep your legs together as your hands come to your sides - Glide.

INVERTED CRAWL OR STANDARD BACKSTROKE

BACKSTROKE KICK

Push off on your back with your hands at your sides. Do the same kick you learned for crawl.

Kick *up* instead of down. Reach down into the water with your foot. Catch the water on top of the foot and kick some of it up above the surface in a small white plume.

Kick at swimming speed, very steadily, every kick up to the surface.

Keep your hips up and your eyes looking straight up. Lie very flat and let the water hold you.

BACKSTROKE ARMS

Push off on your back with both arms overhead and start your kick.

Pull one arm in a sweeping pull, out to the side, close to the surface with the arm straight.

When it finishes, pull the other one and recover the first one wide and low over the water (and still straight) to the starting position.

Make your arms look like oars pulled one at a time. They should catch the water at a spot well wide of the center line of the body, pull shallow, stay straight and recover low, just like oars.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
COMPLETE BACKSTROKE	COMPLETE BACKSTROKE
This coordination is easier than some other strokes, as there is no breathing problem. This type of backstroke is worth developing. Many swimmers prefer it because of the breathing and the pleasant sensation of lying on the back and swimming easily in quiet water. A real six beat rhythm and machine-like easy performance take time to develope but are worth the effort.	Kick as you do in crawl, 3 times on each arm. Count 1-2-3--4-5-6 to establish the rhythm. Keep your hips up, look straight up, and swim deliberate controlled strokes. Lie down and let the water support you.
SAFETY SKILLS FOR BEGINNERS	SAFETY SKILLS FOR BEGINNERS
LEVELING OFF	LEVELING OFF
Lack of knowledge of this skill causes many accidents and near accidents among weak swimmers. Concentrate on getting the head down and the feet up. Very weak swimmers can start from zero in shallow water by squatting and swimming as above, without pushing from the bottom or side.	Jump into the water, come up perpendicular and take a big breath, put your head down and start swimming. Keep your head down until your feet come up and progress through water is well under way.
CHANGE DIRECTION	CHANGE DIRECTION
This skill too eliminates a common cause of trouble for poor swimmers. Keep the head down during the turn.	Swim part way across the pool, turn and swim back. Put your head down and swim around. Work hard to get around and get started. Don't swim in a half circle, but turn in your own length or less.
TURN OVER	TURN OVER
These skills are learned quickly. They should be practiced for several short periods by weak swimmers so they become familiar.	Swim part way across the pool, turn over and swim on your back, swim several strokes and turn over again and finish. In turning from back to front, depress one hand, turn your head toward that side and reach over quickly with the other hand.

NOTES FOR INSTRUCTORS

DIVING

Diving is very easy for some and very difficult for others. The atavistic impulse to drop feet first is very strong and takes determination and practice to overcome.

The two things that must be stressed are the push forward and the lowering of the head.

There should be a marked carry-over of training in body position from prone glide practice, but usually there isn't.

SCULLING

Sculling is readily learned by most students. It is a valuable asset for safety in teaching the "feel" of water and as a foundation for breaststroke arms later.

Using sculling as a means of water travel comes easily and after these two basic uses are mastered, suggest variations - travel feet first on the back, scull round and round, etc.

FLOATING MOTIONLESS

Far more people can learn to float MOTIONLESS than most published figures indicate. I have never seen a woman who couldn't float. Last year in checking 500 male students (Jr. & Sr. High School in Hibbing), I found 6 sinkers, (boys who sank to the bottom with the lungs full of air). All others remained on top in a ball float showing they could learn to float motionless in quiet water.

INSTRUCTIONS FOR PUPILS

DIVING

Sit on the side with your feet in the gutter, or squat with your feet gripping the edge. Stretch your hands out toward a spot several feet from the wall.

Push forward hard toward the above spot. Drop your head, stretch out, go under and glide.

SCULLING

Stand on the bottom with your hands in front of your hips, flat, firm and well below the surface. Sweep them alternately together and apart, smearing the water down as if troweling down cement or smearing a big handful of frosting on a cake.

Your hands must change angle as they change direction, to force the water down and so hold you up.

Squat down and gradually take the load on your hands. Remain upright and steady.

Lie down on your back, sculling steadily. Flatten your body, look up, raise your fingers slightly and scull rapidly, driving yourself head first through the water.

FLOATING MOTIONLESS

Check the flotation power of your lungs by taking a full breath and doing a ball float. See!! Everyone has buoyancy enough to learn to float.

Get on your knees on the bottom, put your hands out to the side, palm up (to keep from using them to swim with) take a big breath, put your head back and let the water float you up.

NOTES FOR INSTRUCTORS

You will encounter many who are *sure* they cannot float. Some of these can be persuaded by a ball-float check, other die-hards will not believe even that evidence.

Fill your pool flush full and have the pupils ease into the water so that there will be *no* waves to contend with.

Some boys will be muscle-bound, tight enough to have difficulty with the position. These are hard cases. Girls have no trouble.

The important things to learn are the position, (that is, to develop control enough to move into the position and maintain it), and breath control (to hold the full breath and exchange air quickly.)

Every person who can, should learn to float, not to temporize by kicking or stroking or sculling a little, but to float motionless. There is no greater safety factor among these skills.

INSTRUCTIONS FOR PUPILS

As you float up, carefully swing your arms overhead (be careful to keep every bit of hands and arms beneath the surface), and pull your feet farther back under you so that your body is a smooth curved line from hands to knees with your feet well under your body.

Separate your knees laterally, look straight up, hold your breath and float.

For breathing, exhale and get a new full breath quickly and hold it. Your legs may sink a little as you do this, but they will float up again on the full breath.

If you move your arms or legs, move *very* deliverately. Try not to change your body line.

Let the water hold you where you normally come to rest. Don't try to straighten your legs or flatten out completely.

BREAST STROKE

Breast stroke is the most important stroke the pupil will learn; the most valuable stroke anyone can have available for use for these reasons:

1. It is a power stroke. The breast stroke kick has more power than any other kick, making it invaluable for personal safety, for life saving and for any other horsepower job in the water.
2. Once well learned, it requires no practice or physical condition for use. It can be used by anyone at any age and energy output gauged to available supply.
3. The kick is the foundation for the most efficient method of treading water.
4. It may be used with or without breathing.
5. Vision is the best in any type of swimming.

BREAST STROKE

NOTES FOR INSTRUCTORS

The only drawback is the difficulty in achieving group efficiency. It is not natural to most swimmers, has little relationship to other skills and is difficult to teach. By this I mean it takes time, and many practice sessions to teach breaststroke to a class and get 85 to 90% results.

The most difficult skill is the kick, in fact this causes most of the trouble in teaching. It is troublesome because the feet must change position, from feet extended and pointed to flat and turned out - duckfooted. This change of position seems to be almost beyond the capability of some pupils. It is hard for many to feel the grip on the water with the soles of the feet. This "feel" comes, for some, only after many, many practice periods.

Practice on land - one foot at a time, conditioning the muscles and acquiring control in making the change of foot position is of great help. The more difficult cases should practice this hundreds of times. It can be done anywhere - not necessarily in class. Sell it!

BREASTSTROKE KICK

The most common error is the failure to turn the feet flat. The answer is practice, practice, practice to educate the muscles that do the job.

Many pupils introduce a scissors motion, feet at different levels, one foot turned in and the other out.

This is the reason I like to teach breaststroke before side stroke. A scissors movement is hard to eliminate from the breastroke kick, but breastroke movements are not usually troublesome in scissors kicks.

INSTRUCTIONS FOR PUPILS

BREASTSTROKE KICK

Hang on the wall (bracket your arms) with your legs extended, feet together and toes pointed.

Flex and separate your legs so that your feet are drawn up near your buttocks.

Bend more at the knees than at the hips.

Feet and knees should be about the same distance apart - how far? Just well open.

When your legs are flexed or drawn up, stop and turn your feet up and out as far as they will go, so the soles are presented to the water.

Drive against the water with the soles of your feet and at the same time squeeze your legs together. As they finish, point your toes and stop, in the original position.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
This scissors motion is hard to change because the pupil who does it usually has a background of swimming. He has been successful in propelling himself with this kick, his coordination is established and his muscles will not change without careful concentration on control. In other words, his scissors kick is a bad habit in breaststroke. Many pupils bend too much at the hip, pull the knees under the body, let the buttocks rise above the surface. They create so much resistance with their thighs that they eliminate all chance of developing a successful kick. They should try to maintain a fairly smooth line from shoulders to knees, all during the kick. In other words, try to maintain a surface on which to ride. This fault also decreases power from the kick. Greater power is delivered by the feet if they start the power stroke from points above the line of body. For many pupils the path traveled by the feet during the power stroke is triangular - feet separated the greatest distance at the finish of the drive and then squeezed together later. The drive with the soles of the feet and the squeeze should occur simultaneously so that the path traced by the feet is circular - not triangular. Many try to kick continuously - no stops for any reason. Breastroke is not a continuous stroke. The strokes should be separated by a long glide. Very deliberate kicking with careful control will pay dividends.	Hold that stretched position before starting the next kick. This is the way the kick is to be used in swimming - after each kick there is a long glide. Work very slowly, make each movement correctly and deliberately. Bend your legs, turn your fleet flat, kick, stretch and hold it.
BREASTSTROKE ARMS	BREASTSTROKE ARMS
Breastroke arms should never break the surface. They should be deep enough so they barely cause a ripple during the arm stroke. This breaststroke arm movement is really a sculling movement and sculling practice beforehand will facilitate learning it.	Stand on the bottom, bend forward into swimming position with your head and trunk. Stretch your arms forward together just below the surface. Turn your palms partially outward (about 45°) and sweep your hands apart until your arms form an angle of 100° or so. Do not sweep too far!

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
Breaststroke arms for beginners should be used only to help raise the head for breathing, not for pulling. This is hard to get across. Every pupil wants to pull, and pull too far. The hands should not stop under the chin. The arm stroke should be one smooth movement followed by a pause with the arms stretched and together.	Change the angle of your hands so that your thumbs are high (instead of low) and sweep them together under your chin and immediately slide them forward to the original position. Hold the stretched position before starting the next stroke.
BREASTSTROKE BREATHING	BREASTSTROKE BREATHING
With the background of crawl breathing practice, the pupil finds this breathing fairly easy. To keep water out of their mouths, have the pupils extend their lips and look like a fish as they open their mouths wide for a breath. Long hair is a problem here.	Stand on the bottom, hands on legs, bend forward until your chin touches the water - look straight ahead. Take a big breath through a wide open mouth, lower your head as far as your hairline and exhale smoothly and slowly through your nose. Finish exhaling as you raise your head to the original position for the next breath. Use your neck muscles to raise and lower your head. Keep your trunk still. Move as little as possible. Open your eyes and look straight ahead as your face emerges.
COMBINING ARMS & BREATHING	COMBINING ARMS & BREATHING
After sufficient practice to acquire the arm movement and the breathing separately, combining them is a simple problem in coordination. Timing is very important if the pupil is to swim efficient breaststroke, as many of the faults in timing the stroke itself come from faulty timing of breathing. As with the kick, many pupils want to use the arms in a continuous motion. Teach them to stretch and glide at the finish of each arm stroke. Keep the hands together and wait for the breathing. Most swimmers, left to themselves, will breathe too late. They wait to inhale until the hands are under the chin. This stops the hands in that position and kills progress through the water. They should breathe at the beginning of the arm stroke.	Stand in the position for arm practice. Lower your head and exhale. When ready for the next breath, raise your head and start the arm stroke at the same time so your hands hold your head up while breathing. As your hands come together under your chin, drop your head and begin exhaling. Hold your hands in the stretched position together until ready for the next breath.

NOTES FOR INSTRUCTORS

While swimming, it is not necessary to pull on the arms to raise the head for breath. If the arms are stretched out and swept apart with an easy sculling motion, there will be plenty of support for the head.

BREASTSTROKE COORDINATION

Most swimmers, if asked about the relationship, timing or coordination of arms and legs in breaststroke swimming, would say that breaststroke is a recriprocal stroke; that the arms pull during the leg recovery and the arms are pushed forward during the kick. This sounds logical and is the natural way to try to swim breaststroke, but it does not work at all well. The recovery of the legs neutralizes the arm-pull and the forward thrust of the arms does the same for the kick. Reciprocal timing makes for very slow progress. The swimmer just creeps ahead.

The idea behind the timing in the other column and the reason it is successful is as follows:

During the arm-stroke, the legs are kept straight and together. This means there is no unusual resistance. It is easy to pull streamlined legs through water.

The power stroke of the kick does not occur until the arms are in gliding position. It is easy to kick a stretched body through the water.

The swimmer is traveling at his greatest speed just after the kick. He is in perfect position to take advantage of this speed and glide several feet with no further work.

FLYING BREASTSTROKE

It is a shame that this stroke has crept into competitive swimming as it is of value for one thing only - speed. Otherwise it is hard to learn and since it drains terrific amounts of energy, it is of no value to the average swimmer. A few boys will like to play with it and the teacher will be asked for information about it.

INSTRUCTIONS FOR PUPILS

BREASTSTROKE COORDINATION

Push off gently in gliding position.

Do the first arm stroke, and as your hands are moving forward toward the original position, draw up your legs for the kick.

When the arms are stretched into gliding position, kick, hold the stretch and take a long ride.

Actually arms and legs do not work at the same time. You can learn the timing easily if you learn to use arms and legs successively, first the arm pull, then the kick. Do not kick until your arms are stretched out together in front of you. Do not kick until the arms have finished their stroke.

FLYING BREASTSTROKE (No Slide)

Lie stretched out in push-off position.

Flex your legs for a small, narrow breaststroke kick.

Pull your arms (crawl pull, both at the same time), so that the thrust of the kick and the arm pull are simultaneous.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
Of all the possibilities in timing this stroke, there are two that are more successful than others:	At the finish of the arm pull, raise your head to breathe and breathe as your arms swing to the side over the water to the original position. (Keep your chest out, hips still all the time.) Turn your hands palms down at the beginning of recovery.
1. Flying without a slide: This is really a crawl stroke. The arms are used together as they are used singly in crawl, and the kick is minimized to the point where it is responsible only for the name of the stroke, and contributes very slightly to forward progress. There are two problems in teaching this timing. (1) The swimmer usually tries to bend his legs for the next kick as arms swing over the water. The legs must be left straight until the arms have completed their recovery. (2) Many swimmers fail to keep body, hips and thighs in line, so they have a surface on which to ride all during the stroke. One common reason for this failure is the use of abdominal muscles to help the arm pull. These must be left out except as holding muscles. Another reason is bending at the hip for leg recovery. The kick must be done almost entirely from the knee down.	After these movements are learned, one complete stroke at a time, hook them together so there is no stop between strokes.
The kick for this type of flying is small, narrow and as free from resistance as possible.	
2. Flying with a slide:	2. Flying with a slide:
The timing here is like standard breast stroke. Again the legs should be kept straight until arm recovery is almost complete.	Push off in gliding position. Pull your arms, as above, through to your legs and immediately swing them over the water to the original position.
This type of flying is successful for those pupils with an excellent breaststroke kick and a very strong arm pull. The kick is almost as large as a standard breaststroke kick.	When your hands enter the water out in front of you, flex your legs and do a strong breaststroke kick. Take a long glide - Repeat.
Natural buoyancy is an asset.	

NOTES FOR INSTRUCTORS

UNDERWATER BREASTSTROKE

This is the most successful stroke for swimming under water as it is fast and economical.

Crawl may be used, and it is very fast, (the arms are like long dog paddle), but it uses too much energy for maximum distance under water.

The arm pull usually starts like a breast stroke arm pull and some swimmers complete the pull in that plane - out to the side. Others, more successful, change the pull to crawl pull about in line with the head. The elbows are bent, the hands scull under the face and the pull finishes as a two arm crawl pull. Using abdominal muscles to help arm pull causes undue resistance by spoiling streamlining.

The full arm pull and the timing of under water breaststroke seem natural for most pupils. They learn it readily.

The most common mistake is the failure to take the long headfirst glide which adds materially to speed and endurance.

Anyone who has been close to swimming for 30 years or more, remembers the club and YMCA competition for underwater distance. They can also remember those determined competitors who swam under water until they became unconscious - not a pleasing picture or a fitting finish for an athletic event.

The headfirst underwater glide is dangerous in unknown water. The swimmer must keep oriented, clearly aware of his depth and relation to underwater obstructions, docks, piling or other dangers.

TREADING WATER

There are several methods of treading water that are described for teaching to swimming classes, but there is only one method worth the expen- of time and energy.

INSTRUCTIONS FOR PUPILS

UNDERWATER BREASTSTROKE

Dive or push off to a depth of 2 or 3 feet in perfect gliding position.

Pull your arms thru a complete forceful pull until your hands rest on your thighs.

Glide in this position until forward progress decreases.

Slide your hands forward close to your belly and chest and at the same time flex your legs for a big strong breaststroke kick.

Kick, follow immediately with the complete arm pull and the long glide head first.

Control your depth by raising and lowering your head.

Streamlining pays dividends.

TREADING WATER

While upright in deep water, sculling with your hands to stay up, do the first part of the power stroke of the breaststroke kick. In other words, with your legs flexed and

NOTES FOR INSTRUCTORS

Treading is hard work at best, and time spent on the most efficient method is well spent. Fortunately, swimmers learn to tread quickly after they have some breaststroke background. The coordination seems difficult at first, but comes readily after a few periods of practice.

Here's another way to give the pupil a mental image of the foot movement used here. "Imagine you are sitting on a horse. Do the first part of a breaststroke kick, but don't touch the horse with your feet."

Maintaining the sitting position, with the surfaces of thighs and feet presented to the water, adds greatly to stability.

Actually, after a few practices, the pupils learn to scull with their feet and treading becomes remarkably easy.

Here, we have learned two methods of treading, but the standard breaststroke is but a step toward the other method.

RACING DIVE

This is one skill connected with swimming in which the pupil must use every available bit of energy. It cannot be practiced slowly, and that makes it difficult to learn. Most things can be practiced with time to think about the next move, but not the racing dive.

The whole dive takes so short a time and must be done so well, that few swimmers acquire any real efficiency. This is written for a dive from the usual take-off 18" above the surface.

Racing dive is difficult to teach, a waste of time unless time is plentiful or competition is in prospect.

Concentrate on these details:

INSTRUCTIONS FOR PUPILS

spread laterally, and the feet turned flat as for breaststroke, start to kick, bring your legs back and kick again. Repeat, again and again until enough power is developed to maintain your head above water.

Now comes the type of tread we want. We have been using the legs simultaneously. Now we will alternate them, with even timing, one, then the other, etc.

This is hard at first. Scull with your hands to stay up and practice slowly - right leg - left leg - right leg - left leg - etc. Get a grip on the water with each foot each time.

RACING DIVE

Stand on the edge with your feet slightly apart, toes firmly gripping the edge.

Bend forward and flex your knees slightly until your hands are beside your knees. Stand steady. Look at a spot in the water about 15 feet away. You are now ready for the starting signal.

At the signal, several things must be done at once:

1. Your arms swing well back of your body.
2. Your body bends sharply forward at the waist (this is to throw you forward off balance to the point where you can drive yourself forward through the air parallel to the water surface and about 3 feet above it.)

NOTES FOR INSTRUCTORS

1. Make the arm thrust and leg drive successive.
2. Discourage *swinging* arms forward as this carries the head too high, pulls the body into an arch, spoiling the dive.
3. Many swimmers will want to throw their hands away above the line toward the spot. Hold them to the spot.
4. Many think a racing dive requires a flat, soul-shaking crash into the water. Not so! The legs may hit a little flat at the thighs, but otherwise the entry is fairly clean at a shallow angle.

INSTRUCTIONS FOR PUPILS

3. Bend your knees a little more.
4. Keep your eyes on the afore-mentioned spot. (All this is really a wind-up for the spring.)

Thrust (do not swing) your arms at the spot. As they reach that position, drive with your legs and feet, so that the leg drive follows the thrust of the arms. (These movements are successive, not simultaneous.)

Keep your eyes on the spot until you are well away from the wall. Then lower your head until the ears touch the arms.

Keep your stomach well sucked in, so that, during the flight and entry, your body is in open jack-knife position.

As your hands and head enter the water, straighten your body and try to flow through the surface and glide parallel to the surface about 18" below it.

SPRING BOARD DIVING

This is no place to cover this subject, but everyone who swims would like to be able to do a dive from a springboard without looking too awful. Most kids love to leap into the air and dive, the higher the better.

The characteristic feature of poor diving is lack of control. This is most evident in control of the legs. Very few people hold their legs straight and together naturally. It can be learned but for most pupils it calls for very careful concentration and many practice sessions.

If the instructor has the pupils practice (on the deck) locking the extensors in thigh and calf, the leg assumes a good position. Then if the pupil can get the same *feel*, when diving and keep the feet *touching*, the result will be surprising.

NOTES FOR INSTRUCTORS

The other common mistake is the failure to leave the springboard with control of balance. Most tyros want to dive out or down. If they are to dive well, they must learn to dive up.

This means that the diver must land on the end of the board for take-off in an erect position and must maintain this position as the board bends and lifts him into the dive. He cannot bend forward or lean forward. He must have his center of gravity over the board in order to get a lift. Otherwise the board throws his legs only.

Average pupils who are taught to control their legs and to stay on balance for a lift, can do creditable dives.

SURFACE DIVE

Every youngster who plays around in water should be able to reach the bottom easily in 6 to 10 feet of water. Unless there is a place from which to dive, this calls for a surface dive. There are two surface dives to teach, one from a standstill and the other moving forward through the water.

DIVE FROM STANDSTILL

The scoop is the hardest thing to learn. Too little and not vigorous enough gives too shallow an angle and results in failure. Too big and / or too hard a scoop pulls the head and trunk too far under and results in a noseful and failure. Each pupil will have to practice enough to learn to make the movement smoothly and just vigorously enough to get the desired result.

INSTRUCTIONS FOR PUPILS

SURFACE DIVE

DIVE FROM STANDSTILL

Lie flat on the surface, head up, sculling with your hands and crawl kicking slowly to maintain the position.

Sweep your hands around to your sides, drop your head, scoop hard with your hands. Bend in the middle until your trunk is pointed straight at the bottom.

Raise your legs straight up, stretch your arms and slide to the bottom. Do not stroke or swim down.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
SURFACE DIVE WHILE IN FORWARD MOTION	SURFACE DIVE WHILE IN FORWARD MOTION
This is very easy for most pupils who swim well and they enjoy it immensely.	In the pool, push off on the surface. In open water, dive from the slide of your breaststroke. While moving forward in gliding position, turn a square corner and start for the bottom. Start with your hands, then your arms, head, body and finally your legs from horizontal to vertical. Keep your hands together and turn the corner vigorously. Do not separate your hands. Do not stroke or swim down.
TURNS	TURNS
Turning adequately is a problem only for competition. The average swimmer doesn't need speed, just the change of direction and a good push-off. Anyone learning to turn will benefit by turning without help from the wall except for the push-off.	
CRAWL TURN	CRAWL TURN
If many turns are used or practiced, it is advisable to teach breathing during the turn. Keep the head at surface level and turn the face toward the wall during the change of direction. Breathe as the turn is made.	Touch the wall with your fingers and turn away from the hand that touches by pulling your legs into a tuck, and throwing your head in the desired direction. The speed of the turn is controlled by the speed and vigor of the tuck. Practice until the turn is standardized at 180°. Push off hard. In a race, the push-off is more important than the turn itself.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
BACKSTROKE TURN	**BACKSTROKE TURN**
This turn is essentially the same as crawl turn, and is made the same way except that the turn is *toward* the hand that touches. It is advisable to turn with the head out and submerge only for the push-off.	Touch the wall with your leading hand and turn *toward* the hand that touches, by pulling your legs into a tuck. Pull your legs toward the shoulder on the side of the hand that touches. Keep that hand on the wall until the turn is nearly completed. Push-off and glide beneath the surface. Exhale through your nose during this underwater glide. This is to keep the water out of your nose.
SIDE STROKE GROUP	**SIDE STROKE GROUP**
There are three strokes in this group: side stroke, single over-arm and trudgen. The first two are marvelous safety strokes; simple, effective and economical of energy, strokes to use all during a lifetime. It is advisable to teach this group after the breaststroke, as mistakes in scissors kick traceable to breaststroke, are usually easy to correct, but scissors movements in breaststroke kick are very difficult to eliminate.	
SIDE STROKE	**SIDE STROKE**
Side stroke is easy to teach as the coordination is simple and the stroke has no breathing problems.	
SCISSORS KICK	**SCISSORS KICK**
The most common error here is lateral separation of the legs resulting in failure to hang on to the water with the back foot. This error sometimes comes from breaststroke leg movements, but is easily corrected by telling the pupil to keep the inner surfaces of his legs (way up near the crotch) in contact all during the kick. It also helps to try to do the complete kick with both feet *very* close to the surface.	Hang on the wall, on your side (either side, but the top leg is to move forward during the kick). With your top hand on the gutter, your head resting on that hand, and your bottom hand forming a bracket. Keep your feet together, toes pointed and your body and legs in line. Flex both legs and draw your feet toward your body with the top leg slightly in front of the bottom one.

NOTES FOR INSTRUCTORS	INSTRUCTIONS FOR PUPILS
Foot position, pointed and pigeon-toed is important for the same reason that it must be controlled in crawl kick. The movements of the back leg must be learned carefully, as all the kicks in this group are dependent on the drive of the back leg for power.	Step out front and back; top leg in front bottom leg in back. Straighten your legs and sweep them together to the starting position. Keep your toes pointed and pigeon-toed during the power stroke.
SIDE STROKE ARMS	SIDE STROKE ARMS
These arms are easy for most pupils, though a few have difficulty getting smooth coordination. Practice is the answer. A few will move the arms out of line with the body or the direction of progress. Standing, they can see the bottom arm and control the path it follows and learn to keep it in line. The top arm should stay close to the body all during the stroke.	Stand on the bottom. Lean over to the side (the same side as for kicking) until the side of your head is close to the water. Extend your bottom arm parallel with and just beneath the surface. Hold your top hand against the front of your leg (right and right or left and left). Sweep your bottom arm straight down until it points at the bottom, then bend it and slide it to the original position. (At the finish of the pull, drop your elbow and point the fingers straight out and slide to the original position.) Keep your hand below the surface all during the stroke. Knife your top hand forward through the water close to your chest, as far as the other shoulder. Turn your hand and stroke back to your leg. Your arms work reciprocally, your top arm recovers as your bottom arm pulls, your top arm pushes as your bottom arm slides to the original position.
SWIMMING SIDE STROKE	SWIMMING SIDE STROKE
As usual, there is a great difference in ease of learning, but most pupils learn side-stroke readily. It takes far less time than teaching breaststroke. The timing indicated in the other column will do for teaching purposes. Actually, in the finished stroke, the bottom arm should be well stretched in front by the time the power stroke of the kick occurs.	Push off on your side, bottom arm extended, top hand on your leg, head on the side looking back toward your feet. Use your arms as they were used in practice. If you count, you can see that the arms take two counts for a complete stroke. The kick, all of it, (meaning recovery and kick), comes on the second count. Say "Pull the bottom arm, kick and glide". Each stroke is followed by a long glide in the original position.

NOTES FOR INSTRUCTORS

The natural timing, used by most side-strokers, in which the top leg and top arm work together, and the kick is done in two counts (like the rest of the stroke), is sound swimming for side-stroke; but it makes for difficulty in teaching single over-arm and trudgen for this reason: - in these two strokes, executed in two counts, the kick (all of it), must be done on the second count. So it is advisable to attempt to teach coordination that can be used for all three strokes.

A common fault is the failure to glide after each stroke. Many swimmers want to stroke all the time. Side stroke is a safety stroke, easy to do, designed for swimming without great effort. It should be done slowly.

SINGLE OVER-ARM

This is one of the most valuable strokes anyone can learn. It is easy to learn, economical and fast enough to cover long distances rapidly and easily. The most serious stumbling block is the breathing.

If the count for side stroke is 1,2 and glide, the count for single over-arm is 1 and glide, 2. There will be some difficulty in teaching the glide face down and eliminating the glide learned on the side in side-stroke. Careful explanation and demonstration will correct it.

There is a strong tendency toward kicking on the first count or kicking twice for one stroke. This may be corrected by concentrating on the arms alone and by practice as in the instructions for pupils.

INSTRUCTIONS FOR PUPILS

There is no breathing problem. Your head stays close to the water with your eyes looking back. Orient yourself from the side and rear. It helps to time your breathing with the top arm. Inhale as it comes up and exhale as it pushes.

SINGLE OVER-ARM

The differences between side stroke and single over-arm are few but important.

The top arm goes over the water for a full length pull like a crawl arm.

The bottom arm stays in the water as in side stroke, but makes a full length pull, all the way to the leg.

The body turns 1/4 turn from the side to flat during each stroke.

The stroke involves exhaling under water.

(In the Water)

Push off on your side as in side stroke, immediately pull your bottom arm all the way to your leg and at the same time swing your top arm directly forward over the water as you turn face down. Then glide for several feet. There are no legs in this, the first count.

After the glide, fold your bottom arm and push it to the original position (this is done under water), as you pull on your top arm, turn your hips on the side and do a powerful scissors kick.

NOTES FOR INSTRUCTORS

TRUDGEN

Trudgen was the racing stroke before crawl. It is fast and powerful but not too valuable when compared to breast and single over-arm for safety and crawl for speed.

The stroke is done in two counts, both arms over the water like crawl arms. There is no long glide, the arms being almost even in value and timing.

The kick may be scissors or breaststroke, single or double (that is, one kick that occurs with the pull of the arm) on the breathing side, or two kicks, one on each arm. Standard present day trudgen is done with one scissors kick. The kick used is smaller than the kick used in single over-arm. It is done almost entirely with the back leg, a small vicious hook with that foot and enough front leg to balance.

The breathing is timed with the arm on the breathing side, like single over-arm breathing.

INSTRUCTIONS FOR PUPILS

As the kick and top arm pull near completion turn your face out for breathing. Then the cycle of the stroke starts again. There is no glide on the side, glide face down only.

Exhale during the glide, face down.

TRUDGEN

Push off as for crawl and use your arms like crawl arms.

Kick when your arm on the breathing side is pulling.

Use a scissors kick (small) mostly with your back leg.

Keep your legs together and straight between kicks.

LIFE SAVING & WATER SAFETY

There is no source of information on this subject that approaches in value the material published by the American Red Cross.

In teaching life-saving, a responsibility is immediately apparent - to screen the pupils so that those passing life-saving tests have real water ability. It is fool-hardy and downright dangerous to turn out life-savers who are mediocre swimmers with a false idea of their value in the field of water rescue. Each pupil taught life-saving should finish with a very definite picture of his own capabilities and limitations.

There is a great deal of information in the Red Cross Life-Saving and Water Safety Manual that should be passed on to swimming classes. The material on personal safety and self-rescue and the handling of small craft should be hammered home to stay. Information about swimming places and elementary rescues should be familiar to everyone who swims. The instructor can afford time for short lectures or integrate the material with daily work, just so the pupil leaves school with a knowledge of the dangers and safety practices of swimming.

WATER GAMES

There are many ways to break the humdrum routine of classwork. Here are a few suggestions:

(a) Swimming Meet

Divide the class in two. Swim events shorter but similar to the events in an interscholastic dual meet.

SAMPLE PROGRAM

40 or 50 yds. Free-style
40 or 50 " Breaststroke
40 or 50 " Backstroke
20 or 25 " Free-style
20 or 25 " Breaststroke
20 or 25 " Backstroke
Diving - 4 simple control dives
Medley Relay - 1 length each back, breast & crawl
4 lengths Free-style Relay
Score 5-3-1 in individual events
Score 6-3- in the medley
Score 8-4 in the Free-style Relay

In a larger class add 3 lengths individual medley swim and/or three lengths Free-style.

Each team has two entries in individual events, one team in the relays. Limit contestants to two events. Use any expedient to get everyone into competition. School kids like wild names for their teams, and a name for a team builds spirit and rivalry immediately. Keep score and keep the class informed of the progress of the meet.

PULLAWAY

This is a good game for a short period at the end of class in a pool 20 to 30 feet wide. The pupil who is "IT" calls "PULLAWAY" from his position in the water

against one wall. The others are lined up on the edge at the opposite side. They must all dive at the call of "PULLAWAY" and swim across either on top or under water. If they are under, they must be brought to the top before they touch the wall. If they are on top they must be pushed under before they touch. Boys particularly like it.

HORSE POLO

This game is a variation of water polo, "horse" from Horseplay. It is one of the few games anyone can play in which there are no rules to worry about.

6 or 8 on a team are adequate.

The game starts like water polo with the ball in the center of the pool and the teams lined up at each end. There are no rules for conduct, handling the ball or duration of play. A score is made when a player touches the ball on the opponents end of the pool above water with the ball in his hand.

Out of bounds at the end gives the goalie a free throw (to his teammates). Out of bounds at the side gives a free throw (to his teammates) by the nearest team member opposite the last one to touch the ball. This game is really violent exercise. It develops swimming ability and teaches the handling of air under severe conditions.

It is also a valuable game for character development. Since there are no rules, lots of punishment is handed out. The play is rough and tempers are liable to explode. Anyone showing lack of control of temper is suspended from play. Also, big strong players must learn to moderate the vigor of their play when in contact with smaller, weaker swimmers.

You'll find that the players will learn to "Take it" and "Like it".

If there are three or four teams in a class, one score complete a game. The defeated team goes out. The winning team moves to the end where the goal was scored and a new team goes in at the other end.

TAG

The only safe, active, and interesting tag game that can be played in a pool without danger of cracked heads and broken bones (because most pool decks are slippery), requires every participant to get wet at least as far as the waist at each corner and at the springboard. This eliminates most of the running and all quick changes of direction which are the sources of accident. Tag should be played only with small groups.

CLASS CHAMPIONSHIPS

Count off for groups of four and swim one length sprints, any stroke; heats, semi-finals and finals for class champion.

GRAB-BAG SWIMMING MEET

Make out small cards with a number of events from the following list, or any unusual events that come to mind.

1 length sculling
1 " feet first
1 " kick only (5 possibilities)

1 length arms only (feet crossed) 4 or 5 possibilities
1 " treading (hands in back)
1 " underwater
1 " bobbing from the bottom
Ducking contest - 1 ducking - 1 point
Short races using standard strokes

Put the cards in a box or pocket. Call two contestants from each team. Pull out a card and name their event. Score as in a regular meet. They love it!

* * * *

Sometimes a teacher wonders just how much he is accomplishing if he has no adequate testing program. He knows the pupils learn to swim, but how many and how well?

Like most teachers, we don't care for paper work, tests, reports and all the terminology of measurement. We need tests that are quick, accurate, easy to administer and valid; giving figures that can be used for comparative purposes; class with class, grade with grade, or school with school.

Luckily, we have in swimming two factors, time and distance, that are easy to handle and objective as can be.

Also, since the teacher must understand and be able to recognize technique in order to teach, he should be able to say whether or not a pupil is able to swim any given stroke. This means that we have another yardstick, the ability to swim any stroke a length of the pool, subjective but valid.

This test can be used for any stroke - crawl, backstroke, breaststroke, side stroke, single over-arm, trudgen and elementary back and any skills, surface dive, tread, scull, etc. Testing is quick, easy and fairly conclusive. Swimming four at a time, the pupils swim a length of the pool, slowly and as well as possible. The instructor can enter a symbol opposite each pupil's name in the roll book as he passes the test and run through a normal class in a very few minutes.

At any time percentages may be figured for each grade in each stroke taught. Comparison of grades, 8 with 9, 9 with 10, etc., will give evidence of teaching results but a comparison of percentages with other schools having the same advantages of equipment and staff would be enlightening and inspirational.

Following are figures from the tests on breaststroke conducted in June. The following boys were able to swim twenty yards standard breaststroke breathing:

8th Grade - 52.7%
9th " - 66.2%
10th " - 64.4%
11th " - 73.2%
12th " - 76.0%

As a purely objective test we use the "minute swim". How many yards can boys swim in one minute? For the class swimmer this checks not only efficiency of swimming but breathing and endurance, and results from any pool can be compared with results from another. We have used this as a free-style test. It could be used for other strokes as well, though it seems a duplication and waste of time.

This test also is easy to administer. Swimming four at a time, with a student checker for each swimmer, the boys are started together. The instructor counts after thirty seconds - 35-40-45-50-2-4-6-8-9-TIME. Each checker puts a foot on the edge of the pool where his swimmer's leading hand is at the call of "TIME", and says when his charge's name is called, "Two lengths and to here", or "three lengths exactly", etc. The instructor estimates the yardage and enters the figure in the roll book. A class of 30 can be tested in 12 to 15 minutes.

From these figures we compute a norm for each grade. For those who are interested in our results, here they are:

7th Grade - 54.6 yds.
8th " - 65.2 "
9th " - 71.1 "
10th " - 69.2 "
11th " - 71.7 "
12th " - 74.0 "

These figures include every boy who is able to swim a length of the pool and all are encouraged to take the test. A few boys in the upper grades are unable to swim and some refuse to try. The percentages that swam in each grade follows:

7th Grade - 72%
8th " - 78%
9th " - 88.9%
10th " - 96.2%
11th " - 98.8%
12th " - 94.0%

Getting these percentages involves some arithmetic, but schools usually have business machines and clerks - use them.

It is worthwhile to have a goal for swimmers to reach, a final achievement toward which each pupil can work. This isn't of real value to the better swimmers but will stimulate the borderline cases to extra effort. This means the test should be simple, but it should also mean that a pupil who passes it should be reasonable safe and able to enjoy normal water activities during his lifetime.

Such a test must check the pupil's ability in the important safety strokes, breathing, a minimum number of important skills and endurance.

We use a test of this character at the end of the tenth grade. Those who pass the test are given an opportunity to elect swimming in the 11th and 12th grades. Those who do not are assigned to classes for further instruction.

The strokes we require are:

1. One length Standard Breaststroke, breathing

2. One length Side Stroke

3. One length Elementary Back Stroke

The skills required are:

1. Treading water, 1 minute

2. Sculling, 1 minute

3. Standing dive

4. Floating motionless (demonstration of correct position adequate for sinkers)

Endurance Swim:

100 yards any style - no stops.

(We think that a pupil who can swim 100 yards can swim more if necessary.)

CLASSIFICATION OF MATERIAL AND ROUGH OUTLINE FOR TEACHERS

Classes of beginners, regardless of age or grade, call for a certain group of fundamentals and strokes. These act as a foundation on which to build the rest of of the strokes and skills, and the basis for recreational activities learned in subsequent years.

Most teaching manuals show a steady progression of material, from the simplest to the most difficult, graded according to age and experience. It would seem logical to follow the same pattern in swimming, but the teaching of swimming doesn't fall into that pattern readily, for the following reasons:

1. The number of things to be taught in swimming are relatively few. Most of them can be covered superficially in two years of teaching.

2. Swimming movements are learned by repetition and thorough teaching depends upon that repetition. Many pupils do not learn from one teaching. They must be taught over and over.

3. Very few schools have the ideal set-up, in which a class is started in seventh grade and carried through the twelfth grade as a unit. There is usually an influx from parochial schools in the ninth grade and another from junior high in the tenth, which necessitates a repetition of all teaching.

4. There is no opportunity to have graded classes in swimming. They are graded for academic work only.

Considering these reasons, it seems advisable to cover all of the strokes and most of the skills during the first two years of work, and re-teach, from fundamentals to final coordinated activities, each year. As classes advance in age, teaching should be more in detail, requirements more exacting, coverage more thorough. The same plan should be used for talks on safety practices. The beginner is liable to more accidents than the initiate. He needs all the safety information he can take. Actual courses for qualification and recognition in Life-saving and Water Safety should be handled as extra-curricular activities. They are definitely for older, capable swimmers.

Every teacher, and especially those in Physical Education, has had experience in standardization of courses and regimentation of classes. In theory these are possible in our public schools, and carried to their ultimate goal, they reduce the teacher to an unthinking cog in a production machine. The teachers we have available are trained in teaching, able to read, digest and utilize educational material. The conditions under which they teach vary as to grades, hours a week, total time available each year and the number of years offered.

We can present an outline for day to day, week to week coverage of swimming for one set or several sets of conditions, but we are sure they could never be used as outlined. The teacher takes pride and satisfaction in the intelligent use of time and facilities to present his subject to the pupils.

We will present a classification of swimming material to be taught the first year, second year and subsequent years, to be used during available time at the teacher's discretion.

FIRST YEAR

2 or 3 hours - Introduction to the water and learning the first steps in control.

- Ball float
- Breathing
- Push and glide, face down

3 to 5 hours - Crawl fundamentals

- Kick
- Arms
- Breathing
- Push and glide practice
- Prone glide and kick

3 to 5 hours - Crawl coordination

- Arms and breathing
- Arms and legs
- Arms, legs and breathing
- Continue plain breathing, kicking & glide practice

2 to 3 hours - Elementary Backstroke

- Back push-off and glide
- Arm stroke
- Kick
- Coordination
- Continue breathing, crawl kicking and crawl swimming

2 to 3 hours - Inverted crawl

- Kick and glide
- Backstroke arms
- Complete backstroke
- Continue crawl workouts and some elementary back stroke swimming

3 to 4 hours - Safety Skills

- Level off
- Change of direction
- Turn over
- Dive
- Scull
- Continue crawl, back stroke and elementary back stroke workouts

6 to 8 hours - Breast Stroke

- Kick
- Arms
- Breathing
- Arms & Breathing

Complete coordination
Practice some diving and sculling
Take crawl workouts first 3 hours, breaststroke workouts later.

3 to 4 hours - Advanced Skills

Float motionless
Turns
Treading water (very short practices)
Racing dive
Take breaststroke workouts

4 to 5 hours - Play days, Races, Tests and checks

Water safety information should be mixed in with other material all year and emphasized during the last weeks of school.

Total 28 to 40 hours.

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SECOND YEAR

- 2 to 3 hours - Fundamental review
  - Push and glide (front and back)
  - Breathing
  - Crawl kick
  - Back stroke kick
  - Crawl arms and breathing
  - Kick and glide
- 4 to 6 hours - Swimming review
  - Crawl
  - Inverted crawl
  - Elementary back
  - Continue breathing, crawl kick, push-off and glide
- 1 to 2 hours - Safety skills
  - Level off
  - Change direction
  - Turn over
  - Dive
  - Scull
  - Continue breathing, crawl kick and swimming workouts
- 5 to 7 hours - Breaststroke
  - Fundamentals to complete stroke
  - Breaststroke workouts
- 1 to 2 hours - Breaststroke variations
  - Flying breaststroke
  - Underwater breaststroke
  - Continue breaststroke workouts
- 3 to 4 hours - Advanced skills
  - Treading
  - Surface dive
  - Racing dive
  - Spring-board diving
  - Continue breaststroke workouts
- 3 to 4 hours - Side stroke
  - Scissors kick
  - Side stroke arms
  - Coordination
  - Continue diving practice, crawl and breaststroke workouts
- 2 to 3 hours - Related Strokes
  - Single over-arm
  - Trudgen
  - Take workouts, breaststroke and side stroke group

2 to 3 hours - Life-saving and Water Safety

Reaching and Wading Assists
Extensions
Life-Saving Kicks

4 to 5 hours - Play days, Races, Tests and Checks

Total 26 to 40 hours

SUBSEQUENT YEARS

6 to 8 hours - Review and Re-teach Rapidly

Push and glide
Breathing
Crawl
Inverted crawl
Elementary back
Scull
Float
Tread
Dive

10 to 14 hours - Re-teach Carefully

Breaststroke
Side stroke group

2 to 4 hours - Cover Quickly

Surface dive
Racing dive
Springboard dive
Breaststroke variations

4 to 6 hours - Teach Well

Life-Saving strokes
Artificial Respiration
Elementary Rescues
Safety with small craft

5 to 8 hours - Play days, Races, Meets, Tests and Checks

Total 28 to 40 hours

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